

AMENDMENTS TO THE CLAIMS

Please amend Claims 46, 58 and 140 as shown below. Please cancel Claims 1-45, 59-139 and 141-160. This listing of the Claims will replace any prior listings of the Claims for the above captioned application.

Listing of Claims:

Claims 1-45 (Cancelled)

46. (Currently Amended) A method for calibrating a three-dimensional imaging system having an optical apparatus for capturing an optical image of an ~~desired~~ object from at least a first position and a second position~~two positions~~, comprising the steps of:

projecting a virtual calibration pattern in the field of view of the object in relation to the optical apparatus in the first position and in the second position;

capturing an optical image of the object together with an optical image of the virtual calibration pattern from the first position and from the second position;

choosing one of the first position and the second position of the optical apparatus as a reference position;

assigning coordinates of a coordinate system relative to either the virtual calibration pattern or the reference position;

measuring ~~the differences in the virtual calibration pattern~~ in the coordinate system from ~~[[a]]~~the first position to the second position of the optical apparatus;

calculating calibration corrections relative to the reference position based on the spatial locations and orientations of voxels in the reference position ~~and the second position~~in relation to the optical image of the virtual calibration pattern; and

adjusting images from the optical apparatus based on the calibration corrections.

47. (Original) The method of Claim 46 further including the step of assigning the coordinate system at the second position.

48. (Original) The method of Claim 47, wherein the optical apparatus includes a single optical recorder that moves between a reference and a displaced position.

49. (Original) The method of Claim 48, wherein said single optical recorder is a three-dimensional camera.

50. (Original) The method of Claim 48, wherein said single optical recorder is a two-dimensional camera.

51. (Original) The method of Claim 48, wherein said single optical recorder includes an electronic imaging detector comprising a pixel array and said step of assigning coordinates is either in parallel to the pixel array or normal to the pixel array.

52. (Original) The method of Claim 47, wherein the optical apparatus includes at least two optical recorders, one of which is located at a reference position and another of which is located at a displaced position.

53. (Original) The method of Claim 52, wherein said at least two optical recorders are three-dimensional cameras.

54. (Original) The method of Claim 52, wherein said at least two optical recorders are two-dimensional cameras.

55. (Original) The method of Claim 52, wherein said at least two optical recorders include an electronic imaging detector comprising a pixel array and said step of assigning coordinates is either in parallel to the pixel array or normal to the pixel array.

56. (Original) The method of Claim 47, wherein said step of assigning coordinates is in alignment with the virtual calibration pattern.

57. (Original) The method of Claim 47, wherein the coordinates are assigned arbitrarily.

58. (Currently Amended) The method of Claim 47, wherein said adjusting~~compensating~~ step is performed mechanically or electronically.

Claims 59-139 (Cancelled)

140. (Currently Amended) The method of claims 49, 50, or 51, wherein at least one laser ranging device illuminates and measures distances to points on the desired object using at least one calibration wavelength.

Claims 141-160 (Cancelled)